CISCO SYSTEMS

Cisco IP/VC 3520 and 3525 Videoconferencing Gateways

Connects any H.320 videoconferencing system on an ISDN network to an IP-based H.323 videoconferencing endpoint to enable worldwide reach and preserve legacy investment.

The Cisco IP/VC 3520 and 3525 Videoconferencing Gateways give enterprises the ability to connect ISDN-based H.320 systems to IP-based H.323 videoconference endpoints. These gateways provide translation services between H.320 and H.323 networks to relay audio and video streams between circuit-switched ISDN and IP networks. These systems enable users to videoconference with others via the LAN or the Public Switched Telephone Network (PSTN), regardless of location.

The IP/VC Gateways enable an H.323 user to "dial out" through the gateway to establish a videoconference session at data rates ranging from 64 kbps to 768 kbps. These gateways place calls through the PSTN to establish a circuit connection with a remote H.320 system or voice-only telephone. The gateways also accept inbound ISDN calls from H.320 systems voice telephone and forward those calls to any H.323 endpoint including multipoint control units (MCUs). The gateways support a variety of call routing methods including interactive voice response (IVR), direct inward dialing (DID), multiple subscriber number (MSN), TCS4, or route to a default destination.

Ensures Highest Quality Conferencing

Both IP/VC Videoconferencing Gateways support audio transcoding to provide the highest quality audio and video possible. Transcoding is provided between audio codec standards G.711 and G.728, and between G.723 and G.711.

The gateways support the H.261 and H.263 video encoding standards for compatibility with a wide range of endpoints and to provide the best quality video possible.

Far End Camera Control (FECC)

FECC commands are passed transparently between H.320 endpoints when connected over IP via gateways or Video Terminal Adapters (VTA), enabling group or room system cameras to be controlled from the remote location.

High Quality G.722 Audio

H.320 systems initiating high quality video calls (at bandwidths of 384 kbps or above) may specify wideband audio encoding using G.722 compression. The gateways will transmit the audio across the IP network to another gateway, a VTA, or a G.722-capable H.323 endpoint.

IP/VC Gateway System Features

When used with the IP/VC 3510 Multipoint Control Unit (MCU), the IP/VC 3520 and 3525 Gateways enable multiparticipant conferences with both H.323 and H.320 endpoints. This ensures local and global participation for important multi-location meetings.

The gateways provide built-in gatekeeper functions, enabling H.323 management and control services (registration, address resolution, and bandwidth control) for remote offices or small videoconferencing networks. For larger networks, Cisco's Multimedia Conference Manager (MCM) provides gatekeeper and proxy functionality, including provisions for quality of service (QoS) over wide-area network links and the ability to operate with firewalls.

The IP/VC Videoconferencing Gateways are part of the new Cisco family of videoconferencing products which also includes the IP/VC 3510 Videoconferencing Multipoint Control Unit (MCU), the IP/VC 3530 Video Terminal Adapter (VTA), and the Cisco Multimedia Conference Manager (MCM).

Choose the Right IP/VC Gateway for Your Videoconferencing Needs

The IP/VC Gateway Family contains two products: the IP/VC 3520 Gateway, supporting ISDN Basic Rate Interface (BRI) and V.35 interfaces; and the IP/VC 3525 Gateway, which offers a single ISDN Primary Rate Interface (PRI) supporting either T1 or E1 connections.

IP/VC 3520 Gateway

The IP/VC 3520 Gateway is available in multiple configurations. It offers a modular chassis that can be configured with two or four BRI ports; two or four V.35 ports; or two BRI and two V.35 ports. When equipped with V.35 ports, the IP/VC 3520 supports RS-366 or V.25bis signaling, allowing the gateway to set up circuit-switched connections through a DCE device such as an inverse multiplexor (IMUX) or access concentrator at speeds up to 768 kbps.

The gateway has internal inverse-multiplexing capabilities, and is able to aggregate multiple BRI channels into 256 or 384 kbps bonded calls. Using this facility, the 3520 gateway can support call bandwidths of 128, 256 or 384 kpbs, depending on the configuration. Each BRI port features echo cancellation for calls to audio-only endpoints and regular telephones.

The IP/VC 3520 Gateways can support up to four concurrent sessions. Users who choose an IP/VC 3520-enabled network also benefit from full end-to-end support for T.120 data-conferencing sessions. The IP/VC 3520 Gateway supports all major central office switch and PBX protocols, interconnecting H.323 and H.320 videoconferencing endpoints, as well as to voice telephones.

IP/VC 3525 Gateway

The IP/VC 3525 is a self-contained system that supports a high volume of calls over a single high-speed ISDN PRI network connection. With the IP/VC 3525, multiple H.323 endpoints can share this PRI T1/E1 system when communicating with ISDN-based endpoints. This gateway can support up to eight calls at 128 kbps each. For higher-quality videoconferencing, it can support up to three calls at 384 kbps (T1) or four calls at 384 kbps (E1). Calls at different bandwidths may take place simultaneously. All calls support simultaneous audio, video, and data conferencing (using T.120).

The 3525 Gateway supports all major central office switch and PBX protocols, interconnecting H.323 endpoints to H.320 videoconferencing endpoints, as well as to voice telephones.

Cisco IP/VC 3520 and IP/VC 3525 Features and Benefits

These are some of the exciting features and benefits that the IP/VC 3520 and IP/VC 3525 H.320 to H.323 Gateways offer users and enterprises.

Features	IP/VC 3520 Benefits	IP/VC 3525 Benefits
Videoconferencing Connectivity	• Provides connectivity between H.323 LAN-attached endpoints and H.320 ISDN-connected endpoints • Offered in five configurations: – Two or four BRI ports – Two or four V.35 ports – Two BRI and two V.35 ports • Global connectivity--supports all major central office switch and PBX protocols	• Provides connectivity between H.323 LAN-attached endpoints and H.320 ISDN-connected endpoints • Configurable E1/T1 PRI network interface • Global connectivity—supports all major central office switch and PBX protocols
Video Sessions Supported	• H.261-only mode – BRI interfaces—up to four calls at 128 kbps, two calls at 256 kbps, or one call at 384 kbps and one call at 128 kbps, or eight voice-only calls – V.35 interfaces—one call per port at 56 kbps to 768 kbps • H.261/H.263 mode – BRI interfaces—up to four calls at 128 kbps, two calls at 384 kbps, or one call at 384 kbps and one call at 128 kbps – V.35 interfaces—four calls up to 256 kbps three calls at 384 kbps, two calls at 768 kbps, or eight voice-only calls • Multiple sessions at different bandwidths are supported	• H.261-only mode – Up to eight calls at 128 kbps, three calls at 384 kbps (T1), four calls at 384 kbps (E1), or 16 voice-only calls • H.261/H.263 mode – Up to four calls at 128 kpbs, three calls at 384 kbps, or eight voice-only calls • Multiple sessions at different bandwidths are supported
Standards supported	• Complies with ITU H.320 and H.323 standards for multimedia conferencing • Supports WAN communication interfaces (ISDN-BRI and V.35/RS-366 or V.25bis) • Supports ITU audio transcoding (G.711/G.723 and G.711/G.728) • T.120 data conferencing	• Complies with ITU H.320 and H.323 standards for multimedia conferencing • Supports WAN communication interfaces (ISDN-PRI) • Supports ITU audio transcoding (G.711/G.723 and G.711/G.728) • T.120 data conferencing
Far End Camera Control[1]	• H.320 endpoints control the cameras of remote H.320 endpoints connected through gateways or VTAs	• H.320 endpoints control the cameras of remote H.320 endpoints connected through gateways or VTAs
High Quality Audio	• Transports wideband G.722 audio between H.320 endpoints and standards-based H.323 endpoints	• Transports wideband G.722 audio between H.320 endpoints and standards-based H.323 endpoints
Integrated Inverse Multiplexor	• Supports bonding across BRI ports enabling calls up to 384 kbps	• Supports bonding across BRI ports enabling calls up to 384 kbps
Gatekeeper Compatibility	• Offers built in gatekeeper for small networks • Works with Cisco Multimedia Conference Manager (MCM) for scalability, gatekeeper, and proxy functions	• Offers built in gatekeeper for small networks • Works with Cisco (MCM) for scalability, gatekeeper, and proxy functions
Call Routing Features	• Supports interactive voice response (IVR); DTMF; direct inward dialing (DID) /multiple subscriber number (MSN);TCS4; and default extension	• Supports IVR; DTMF; DID /MSN;TCS4; and default extension

Features	IP/VC 3520 Benefits	IP/VC 3525 Benefits
Configuration Flexibility	• Each unit houses two WAN modules • Each module contains two V.35 or two ISDN-BRI ports • Units can be stacked or rack mounted (one RU high)	• Single ISDN-PRI interface supports T1 or E1 • Units can be stacked or rack mounted (one RU high)
Diagnostics	• Power on self test for CPU, interfaces, and memory when unit is turned on • Front panel LED indicators • Telnet monitoring capabilities • Serial console	• Power on self test for CPU, interfaces, and memory when unit is turned on • Front panel LED indicators • Telnet monitoring capabilities • Serial console
Easy Installation, Configuration, and Management	• Windows SNMP-based configuration utility • Local configuration via serial port or network • Remote configuration via modem (PPP) • Remote software upgrades via the network	• Windows SNMP-based configuration utility • Local configuration via serial port or network • Remote configuration via modem (PPP) • Remote software upgrades via the network

1. This feature is enabled with the gateway is used in "toll bypass" applications to avoid high per-minute long-distance ISDN charges.

Specifications

Specification	IP/VC 3520	IP/VC 3525
LAN Interface	• One 10/100 Ethernet port, IEEE 802.3, 8-pin RJ45	• One 10/100 Ethernet port, IEEE 802.3, 8-pin RJ45
WAN Interfaces	• V.35 module: Dual port module, DTE nx56, nx64 up to 768 kbps; automatic clock rate sensing; V.25bis or RS-366 dialing; 26-pin D-type connector • ISDN-BRI module: dual BRI ports; RJ45 connector	• Configurable single PRI (TE or NT) interface with standard RJ45 connector • T1 mode--23B+D: clock rate of 1.544 Mbps, ESF or D4 framing, B8ZS or AMI encoding, line impedance 100 Ohms • E1 mode--30B+D: clock rate of 2.048 Mbps, G.704 with CRC4 framing, HdB3 or AMI encoding, line impedance 120 Ohms
Serial Port	• RS-232, 9-pin D-type, DCE	• RS-232, 9-pin D-type, DCE
Protocols	• H.323, H.320, T.120	• H.323, H.320, T.120
ISDN Protocols	• AT&T 5ESS • Northern Telecom DMS 100 • National ISDN-1 (NI-1) • Euro-ISDN	• AT&T 5ESS • Northern Telecom DMS 100 • National ISDN-1 (NI-1) • Euro-ISDN • NTT
Video Coding	• H.261, H.263, QCIF/CIF	• H.261, H.263, QCIF/CIF
Audio Coding	• G.711, G.722, G.723, G.728 • Transcoding between G.711/G.723 and G.711 and G.728	• G.711, G.722, G.723, G.728 • Transcoding between G.711/G.723 and G.711 and G.728
Data Collaboration	• Supports T.120 data collaboration; rates up to 64 kbps	• Supports T.120 data collaboration; rates up to 64 kbps
Gatekeeper support	• Built in gatekeeper • Optional support for Cisco Multimedia Conference Manager	• Built in gatekeeper • Optional support for Cisco Multimedia Conference Manager
Panel LEDs	• Power, Test, Link • WAN Activity (x4)	• Power, Test, Link • Carrier Detect, Activity, Loopback, Alarm
Dimensions	• 43.2cm x 35.0cm x 4.3cm • 17in x 13.77in x 1.75in	• 43.2cm x 35.0cm x 4.3cm • 17in x 13.77in x 1.75in

Specification	IP/VC 3520	IP/VC 3525
Weight	• 5.5 pounds • 2.5 kg	• 5.5 pounds • 2.5 kg
Power	• 100-240 VAC auto sense, 50/60 Hz • U.S. power cable included • Other power cables available separately	• 100-240 VAC auto sense, 50/60 Hz • U.S. power cable included • Other power cables available separately
Environment	• Operating temperature 0–40°C (32–104°F) • Humidity-15%-85% noncondensing	• Operating temperature 0–40°C (32–104°F) • Humidity-15%-85% noncondensing
Software Upgrades	• Using software upload utility, new version can be loaded into Flash memory	• Using software upload utility, new version can be loaded into Flash memory
Agency Compliance	• Safety: UL 1950, CSACS22.2 950, EN 60950, IEC950 • FCC Part 15 Class A, ICES-003 (Canada) Class A, EN 55022 Class A, CISPR-22 • Immunity: EN 50082.1 • Telecom: FCC Part 68 (USA), CS-03 (Industry Canada), CTR-3 (CE Europe)	• Safety: UL 1950, CSACS22.2 950, EN 60950, IEC950 • FCC Part 15 Class A, ICES-003 (Canada) Class A, EN 55022 Class A, CISPR-22 • Immunity: EN 50082.1 • Telecom: FCC Part 68 (USA), CTR-3 (CE Europe)

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